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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,146	07/28/2003	Xulin Sun	Serie 6020	4357

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Linda K. Russell  
Air Liquide  
Suite 1800  
2700 Post Oak Blvd.  
Houston, TX 77056

EXAMINER

SAVAGE, MATTHEW O

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,146

Applicant(s)

SUN ET AL.

Examiner

Matthew O. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-28 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-11, 13-20 and 22-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1-21-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Applicant's election with traverse of group I and species 1 in the reply filed on 6-9-05 is acknowledged. The traversal is on the ground(s) that:

Groups I and II should be rejoined since group I, the apparatus, as been amended to positively claim the hemodialyser;

Examination of all the groups and species would not impose an undue burden upon the examiner since examination the application requires a search only in class 210.

The restriction between groups I and II will be withdrawn in view of applicant's amendments to the group I claims;

The restriction between species 1 and 2 will be maintained since examination of both species in the same application absent any allowable generic claims would require two separate searches within class 210 and thereby impose an undue burden upon the examiner.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The concept of the U.V. light causing bubbles to form on the liquid surface is considered new matter. Applicant should note that the instant specification teaches that the U.V. light controls the formation of bubbles as opposed to causing formation of the bubbles (see lines 3-17 of page 6 of the instant specification).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-11, and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the preamble of claim 8, it is unclear by "for hemodialyzers" as to whether or not the waste treatment apparatus is being claimed in combination with the hemodialyzer mentioned in part (i) of the claim.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Claims 8-11, 17-20, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-22496 to Koichi in view of WO 99/41202 to Watanabe et al.

With respect to claim 8, Koichi discloses a transport pipe 15 (see FIG. 2) connected to a hemodialyzer to transport dialysis waste liquid from a hemodialyzer, and a bacteriostatic treatment tank 3 for restraining the propagation of bacteria caused by the dialysis waste liquid transported by the transport pipe 15. Koichi fails to specify an ozone water injection nozzle for injecting ozone water into the tank. Watanabe et al disclose an ozone water injection nozzle 27 for injecting ozone water into a tank containing a waste liquid and teaches that such a means suppresses the emission of odors from the tank (see the abstract). It would have been obvious to have modified the apparatus of Koichi so as to have included the ozone water injection nozzle as suggested by Watanabe et al in order to suppress the emanation of odors from the tank.

Concerning claims 9 and 10, Koichi discloses a transport pipe 15 capable of providing a means to retain dialysis waste liquid gas-tightly/in substantial absence of air until it reaches the tank since it is an impermeate pipe.

As to claim 11, Watanabe et al disclose the ozone water ejection nozzle as being constructed to eject ozone water to an outlet of the transport pipe and to the exposed wall surface of the treatment tank since it produces a fog of ozone water that fills upper void space within the tank above the liquid (see lines 63-67 of col. 3).

With respect to claim 17, Koichi discloses a waste treatment method of hemodialyzers including transporting waste liquid produced from a hemodialyzer via a

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transport pipe 15 (see FIG. 2), and restraining the propagation of bacteria via a bacteriostatic treatment tank 3 caused by the dialysis waste liquid transported by the transport pipe. Koichi fails to specify the step of ejecting ozone water into the bacteriostatic treatment tank via an ozone water ejection nozzle. Watanabe et al disclose the step of injecting ozone water into a waste water treatment tank with an ozone water injection nozzle 27 and teaches that such a step suppresses the emission of odors from the tank (see the abstract). It would have been obvious to have modified the apparatus of Koichi so as to have included the step of ejecting ozone water into the bacteriostatic treatment tank with ozone water injection nozzle as suggested by Watanabe et al in order to suppress the emanation of odors from the tank.

Concerning claims 18 and 19, Koichi discloses a transport pipe 15 capable of providing a means to retain dialysis waste liquid gas-tightly/in substantial absence of air until it reaches the tank since it is an imperforate pipe.

As to claim 20, Watanabe et al disclose the ozone water ejection nozzle as being constructed to eject ozone water to an outlet of the transport pipe and to the exposed wall surface of the treatment tank since it produces a fog of ozone water that fills upper void space within the tank above the liquid (see lines 63-67 of col. 3).

As to claim 26, the combination of Koichi and Watanabe et al disclose the step of treating the dialysis waste liquid with ozone by ejecting ozone water into the tank via nozzle 27, the ozone treatment inherently restraining the propagation of bacteria and preventing the formation of plugs since ozone water is mixed with the dialysis waste

liquid and because all exposed interior portions of the tank are contacted with ozone water.

Concerning claim 27, Watanabe et al disclose the step of ejecting ozone water into the tank to remove at least a portion of the odor of the dialysis waste liquid.

As to claim 28, Koichi discloses reducing at least a portion of the COD and BOD via an ozone contacting step 8 and aeration step 29 (see FIG. 4).

Claims 13, 14, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koichi in view of Watanabe et al as applied to claim 8 above, and further in view of Cole et al.

With respect to claim 13, Koichi and Watanabe et al disclose the concept of providing an additional processes for treating water released by the discharge pipes of the treatment tanks but fail to specify the recited organic substance decomposing tank. Cole et al disclose an organic substance decomposing tank 10, an ozone gas supply unit positioned to supply ozone gas to the waste liquid in the treatment tank (see lines 49-55 of col. 8), and an ultraviolet lamp 62 positioned to irradiate ultraviolet light to the waste liquid in the tank (see FIG. 8). Cole et al suggests that such an apparatus is compact and capable of fully oxidizing organic residues in the waste water. It would have been obvious to have modified the combination suggested by Koichi and Watanabe et al so as to have included the organic substance decomposing tank as suggested by Cole et al in order to fully oxidize organic residues in the waste water utilizing a relatively compact apparatus.

Concerning claim 14, Cole et al disclose an apparatus capable of producing bubbles on the liquid surface since it includes all of the structure to the extent recited in the instant claims.

With respect to claim 22, Koichi and Watanabe et al disclose the concept of providing an additional processes for treating water from the back stage of the treatment tanks but fail to specify the recited steps concerning the organic substance decomposing tank. Cole et al disclose the steps of providing an organic substance decomposing tank 10, positioning an ozone gas supply unit to supply ozone gas to the waste liquid in the treatment tank (see lines 49-55 of col. 8), and positioning an ultraviolet lamp 62 to irradiate ultraviolet light to the waste liquid in the tank (see FIG. 8). Cole et al suggest that such a procedure can be carried out by a relatively compact apparatus and is capable of fully oxidizing organic residues in the waste water. It would have been obvious to have modified the combination suggested by Koichi and Watanabe et al so as to have included the organic substance decomposing tank as suggested by Cole et al in order to fully oxidize organic residues in the waste water with utilizing a relatively compact apparatus.

Concerning claim 23, Cole et al disclose a method capable of producing bubbles on the liquid surface since it includes all of the steps to the extent recited in the instant claims.



Claims 15, 16, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koichi in view of Watanabe et al as applied to claim 8 above, and further in view of Lapidot.

With respect to claim 15, Watanabe et al disclose an ozone production unit 24 at the front stage of the tank but fail to specify the water cooler. Lapidot discloses the concept of providing a water cooler 11 for cooling waste water prior to contact with ozone and suggests that cooling the water facilitates the use of off-gas from the tank for regeneration of ozone (see lines 11-50 of col. 6). It would have been obvious to have modified the combination of Koichi and Watanabe et al so as to have included a water cooler as suggested by Lapidot in order to facilitate the use of off-gas from the tank for regeneration of ozone.

Concerning claim 16, Watanabe et al disclose the water source as originating from a storage vessel but fails to specify the water as being city water or pure water, however, the use of city water or pure water would have been obvious to one skilled in the art in order to prevent clogging of the ozone water nozzle 27.

With respect to claim 24, Watanabe et al disclose an ozone production unit 24 at the front stage of the tank but fail to specify the water cooler. Lapidot discloses the concept of providing a water cooler 11 for cooling waste water prior to contact with ozone and suggests that cooling the water facilitates the use of off-gas from the tank for regeneration of ozone (see lines 11-50 of col. 6). It would have been obvious to have modified the combination of Koichi and Watanabe et al so as to have included a water

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cooler as suggested by Lapidot in order to facilitate the use of off-gas from the tank for regeneration of ozone.

Concerning claim 25, Cole et al discloses a water cooler 25 that cools down the water and inherently increasing the concentration of the dissolved ozone.

Applicant's amendments to claims 13-16 have obviated the rejections under 35 U.S.C. 112.

Applicant's arguments with respect to the art rejections of claims 8-11 and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

With respect to the information disclosure statement filed on 1-21-05, references B1 and C1-C5 have not been considered since copies of the foreign references have not been provided, and because English translations or concise explanations of the references has not been provided. Applicant's comment that copies of the references were submitted with a search report in a national stage filing is not considered accurate since the instant application is not a national stage application of any PCT application.

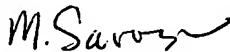
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Matthew O Savage  
Primary Examiner  
Art Unit 1724

mos  
August 22, 2005